National Institute of Environmental Health Sciences

Microarray blood testing: Pros & cons

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Year: 2010
Journal: Biologicals : Journal of The International Association of Biological Standardization. 38 (1): 8-Feb

Abstract:

Blood donation screening represents rather a unique set of blood grouping-related and pathogen detection assays. We are confronted with continuously growing numbers of testing targets. Ideally, the spectrum of clinically significant blood group antigens and alloantibodies would be wider than allowed by current routine tests. At the same time, we are witnessing an increase in emerging and re-emerging human pathogens due to urbanisation, increased international travel and trade, climate change and other factors. The spectrum of blood-borne infectious agents requiring donation screening is expected to grow correspondingly. Dengue and chikungunya viruses, variant CJD and hepatitis E virus represent just some of the candidate infectious agents for future donation screening. Multiplexing techniques, such as microarrays are well suited to address the growing number of targets, pending the increase in sensitivity of some of the microarrays assays. There are several possible scenarios for future testing algorithms, combining new multiplexing techniques with the existing blood testing assays. New generation testing platforms capable of microbiology screening, blood grouping and potential additional types of targets, are also being developed.

Source: http://dx.doi.org/10.1016/j.biologicals.2009.10.014

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Health Professional

Exposure : ☑

weather or climate related pathway by which climate change affects health

Unspecified Exposure

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Co-Benefit/Co–Harm (Adaption/Mitigation):

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: General Infectious Disease

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Medical Community Engagement:

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Other Vulnerable Population: Immunocompromised individuals who need blood from donors

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content